

108TH CONGRESS
1ST SESSION

S. 1400

To develop a system that provides for ocean and coastal observations, to implement a research and development program to enhance security at United States ports, to implement a data and information system required by all components of an integrated ocean observing system and related research, and for other purposes.

IN THE SENATE OF THE UNITED STATES

JULY 14, 2003

Ms. SNOWE (for herself, Mr. KERRY, Mr. MCCAIN, Mr. HOLLINGS, Mr. INOUE, and Mr. BREAUX) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

A BILL

To develop a system that provides for ocean and coastal observations, to implement a research and development program to enhance security at United States ports, to implement a data and information system required by all components of an integrated ocean observing system and related research, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Ocean Observation and
5 Coastal Systems Act”.

1 **SEC. 2. FINDINGS AND PURPOSES.**

2 (a) FINDINGS.—The Congress finds the following:

3 (1) The 95,000-mile coastline of the United
4 States is vital to the Nation's homeland security,
5 transportation, trade, environmental and human
6 health, recreation and tourism, food production, sci-
7 entific research and education, historical and cul-
8 tural heritage, and energy production.

9 (2) More than half the Nation's population lives
10 and works in coastal communities that together
11 make up 11 percent of its land and its most eco-
12 logically and economically important regions, sup-
13 porting approximately 190 sea ports, containing
14 most of our largest cities, and providing access to
15 coastal waters rich in natural resources.

16 (3) More than 95 percent of the Nation's trade
17 moves by sea and nearly half of all goods, including
18 energy products, carried in maritime commerce are
19 hazardous materials.

20 (4) The rich biodiversity of marine organisms
21 provides society with essential food resources, a
22 promising source of marine products with commer-
23 cial and medical potential, and an important con-
24 tribution to the national economy.

25 (5) The oceans drive climate and weather fac-
26 tors causing severe weather events and threatening

1 the health of coastal ecosystems and communities by
2 creating or affecting both natural and man-made
3 coastal hazards such as hurricanes, tsunamis, ero-
4 sion, oil spills, harmful algal blooms, and pollution,
5 which can pose threats to human health.

6 (6) Each year, the United States Coast Guard
7 relies on ocean information to save 4,380 people,
8 conducts over 65,000 rescue missions, and carries
9 out more than 11,680 environmental cleanups and
10 responses to pollution.

11 (7) Safeguarding homeland security requires
12 improved monitoring of the Nation's ports and
13 coastline, including the ability to track vessels and
14 to provide rapid response teams with real-time envi-
15 ronmental conditions necessary for their work.

16 (8) Advances in ocean technologies and sci-
17 entific understanding have made possible long-term
18 and continuous observation from space and in situ
19 of ocean characteristics and conditions.

20 (9) Many elements of an ocean and coastal ob-
21 serving system are in place, though in a patchwork
22 manner that is fragmented, intermittent, incomplete,
23 and not integrated.

24 (10) Important coastal uses, such as tourism,
25 recreation, and fishing, require assurance of healthy

1 coastal waters, and while the interagency National
2 Coast Condition Report provides an annual assess-
3 ment of the status and quality of coastal waters,
4 substantial data gaps exist that could be reduced
5 through measurement of coastal quality through a
6 coordinated observing system that incorporates Fed-
7 eral, State, and local monitoring programs.

8 (11) National investment in a sustained and in-
9 tegrated ocean and coastal observing system and in
10 coordinated programs of research would assist this
11 Nation and the world in understanding the oceans
12 and the global climate system, strengthen homeland
13 security, improve weather and climate forecasts,
14 strengthen management of marine resources, im-
15 prove the safety and efficiency of maritime oper-
16 ations, and mitigate coastal hazards.

17 (b) PURPOSES.—The purposes of this Act are to pro-
18 vide for—

19 (1) development and maintenance of an inte-
20 grated system that provides for sustained ocean and
21 coastal observations from in situ, remote, and vessel
22 platforms, and that promotes the national goals of
23 assuring national security, advancing economic de-
24 velopment, conserving living marine resources, pro-
25 tecting quality of life and the marine environment,

1 and strengthening science education and commu-
2 nication through improved knowledge of the ocean;

3 (2) implementation of a research and develop-
4 ment program to enhance security at United States
5 ports and minimize security risks; and

6 (3) implementation of a data and information
7 system required by all components of an integrated
8 ocean and coastal observing system and related re-
9 search.

10 **SEC. 3. INTEGRATED OCEAN AND COASTAL OBSERVING**
11 **SYSTEM.**

12 (a) ESTABLISHMENT.—The President, through the
13 National Ocean Research Leadership Council, established
14 by section 7902(a) of title 10, United States Code, (here-
15 inafter referred to as the “Council”), shall establish and
16 maintain an integrated system of marine monitoring, data
17 communication and management, data analysis, and re-
18 search designed to provide data and information for the
19 rapid and timely detection and prediction of changes oc-
20 ccurring in the marine environment that impact the Na-
21 tion’s social, economic, and ecological systems. Such an
22 integrated ocean and coastal observing system shall pro-
23 vide for long-term and continuous observations of the
24 oceans and coasts for the following purposes:

25 (1) Strengthening homeland security.

1 (2) Improving weather forecasts and public
2 warnings of natural disasters and coastal hazards
3 and mitigating such disasters and hazards.

4 (3) Understanding, assessing, and responding
5 to human-induced and natural processes of global
6 change.

7 (4) Enhancing the safety and efficiency of ma-
8 rine operations.

9 (5) Supporting efforts to protect, maintain, and
10 restore the health of and manage coastal and marine
11 ecosystems and living resources.

12 (6) Enhancing public health.

13 (7) Monitoring and evaluating the effectiveness
14 of ocean and coastal environmental policies.

15 (8) Conducting focused research to enhance the
16 national understanding of coastal and global ocean
17 systems.

18 (9) Providing information that contributes to
19 public awareness of the condition and importance of
20 the oceans.

21 (b) COUNCIL FUNCTIONS.—In carrying out respon-
22 sibilities under this section, the Council shall—

23 (1) serve as the lead entity providing oversight
24 of Federal ocean and coastal observing requirements
25 and activities;

1 (2) adopt and maintain plans for the design,
2 operation, and improvement of such system;

3 (3) establish an interagency planning office to
4 carry out the duties described in subsection (c);

5 (4) coordinate and administer a program of re-
6 search and development under the National Oceano-
7 graphic Partnership Program (10 U.S.C. 7901) to
8 support the operation of an integrated ocean and
9 coastal observing system and advance the under-
10 standing of the oceans;

11 (5) establish a joint operations center to be
12 maintained by the Administrator of the National
13 Oceanic and Atmospheric Administration, in con-
14 sultation with other Federal agencies; and

15 (6) provide, as appropriate, support for and
16 representation on United States delegations to inter-
17 national meetings on ocean and coastal observing
18 programs and in consultation with the Secretary of
19 State to coordinate relevant Federal activities with
20 those of other nations.

21 (c) INTERAGENCY PROGRAM OFFICE.—There is es-
22 tablished under the Council an interagency planning of-
23 fice. It shall—

24 (1) promote collaboration among agencies;

1 (2) promote collaboration among regional coast-
2 al observing systems established pursuant to sub-
3 section (f);

4 (3) prepare annual and long-term plans for con-
5 sideration by the Council for the design and imple-
6 mentation of an integrated ocean and coastal observ-
7 ing system, including the regional coastal observing
8 systems and taking into account the science and
9 technology advances considered ready for operational
10 status;

11 (4) provide information for the development of
12 agency budgets;

13 (5) identify requirements for a common set of
14 measurements to be collected and distributed;

15 (6) establish standards and protocols for quality
16 control and data management and communications,
17 in consultation with the Joint Operations Center es-
18 tablished pursuant to subsection (d);

19 (7) work with regional coastal observing enti-
20 ties, the National Sea Grant College Program, and
21 other bodies as needed to assess user needs, develop
22 data products, make effective use of existing capa-
23 bilities, and incorporate new technologies, as appro-
24 priate; and

1 (8) coordinate program planning and implemen-
2 tation.

3 (d) JOINT OPERATIONS CENTER.—The Adminis-
4 trator of the National Oceanic and Atmospheric Adminis-
5 tration, in consultation with the Oceanographer of the
6 Navy, the Administrator of the National Aeronautics and
7 Space Administration, the Director of the National
8 Science Foundation, the Commandant of the Coast Guard,
9 the Under Secretary for Science and Technology of the
10 Department of Homeland Security, and any other member
11 of the National Ocean Research Leadership Council as the
12 Council may, by memorandum of agreement, select—

13 (1) shall report to the National Ocean Research
14 Leadership Council;

15 (2) shall maintain a joint operations center that
16 reports to the Council; and

17 (3) is authorized, without limitation—

18 (A) to acquire, integrate, and deploy re-
19 quired technologies and provide support for an
20 ocean and coastal observing system based on
21 annual long-term plans developed by the inter-
22 agency planning office;

23 (B) to implement standards and protocols
24 developed in consultation with the interagency
25 planning office for—

- 1 (i) network operations and data ac-
2 cess;
- 3 (ii) quality control and assessment of
4 data and design;
- 5 (iii) data access and management, in-
6 cluding data transfer protocols and
7 archiving;
- 8 (iv) testing and employment of fore-
9 cast models for ocean conditions; and
- 10 (v) system products;
- 11 (C) to migrate science and technology ad-
12 vancements from research and development to
13 operational deployment based on the annual
14 and long-term plans of the interagency program
15 office;
- 16 (D) to integrate and extend existing pro-
17 grams into an operating coastal and ocean and
18 coastal observing system based on the annual
19 and long-term plans of the interagency program
20 office;
- 21 (E) to coordinate the data communication
22 and management system;
- 23 (F) to provide products and services as
24 specified by national, regional, and international
25 users;

1 (G) to certify that regional coastal observ-
 2 ing systems meet the standards established in
 3 subsection (f) and to ensure a periodic process
 4 for review and recertification of the regional
 5 coastal observing systems; and

6 (H) to implement standards to ensure
 7 compatibility and interoperability among exist-
 8 ing and planned system components.

9 (e) SYSTEM ELEMENTS.—

10 (1) IN GENERAL.—The integrated ocean and
 11 coastal observing system shall consist of the fol-
 12 lowing closely linked components:

13 (A) A global ocean system to make obser-
 14 vations in all oceans (including chemical, phys-
 15 ical, and biological observations) for the pur-
 16 pose of documenting, at a minimum, long-term
 17 trends in sea level change, ocean carbon sources
 18 and sinks, and heat uptake and release by the
 19 ocean; and to monitor ocean locations for signs
 20 of abrupt or long-term changes in ocean circula-
 21 tion leading to changes in climate.

22 (B) The national network of observations
 23 and data management that establishes reference
 24 and sentinel stations, links the global ocean sys-
 25 tem to local and regional observations, and pro-

vides data and information required by multiple regions.

(C) Regional coastal observing systems that provide information through the national network and detect and predict conditions and events on a regional scale through the measurement and dissemination of a common set of ocean and coastal observations and related products in a uniform manner and according to sound scientific practice using national standards and protocols.

(2) SUBSYSTEM LINKAGE.—The integrated ocean and coastal observing system shall link 3 subsystems for rapid access to data and information:

(A) An observing subsystem to measure, manage, and serve a common set of chemical, physical, geological, and biological variables required to achieve the purpose of this Act on time scales required by users of the system.

(B) An ocean data management and assimilation subsystem that provides for organization, cataloging, and dissemination of data and information to ensure full use and long term archival.

1 (C) A data analysis and applications sub-
2 system to translate data into products and serv-
3 ices in response to user needs and require-
4 ments.

5 (3) RESEARCH AND DEVELOPMENT.—A re-
6 search and development program for the integrated
7 ocean and coastal observing system shall be con-
8 ducted under the National Oceanographic Partner-
9 ship Program and shall consist of the following ele-
10 ments:

11 (A) Coastal, relocatable, and cabled sea
12 floor observatories.

13 (B) Focused research projects to improve
14 understanding of the relationship between the
15 oceans and human activities.

16 (C) Applied research to develop new ob-
17 serving technologies and techniques, including
18 data management and dissemination.

19 (D) Large scale computing resources and
20 research to improve ocean processes modeling.

21 (E) Programs to improve public education
22 and awareness of the marine environment and
23 its goods and services.

24 (f) REGIONAL COASTAL OBSERVING SYSTEMS.—The
25 Administrator of the National Oceanic and Atmospheric

1 Administration, through the Joint Operations Center,
2 shall work with representatives of entities in each region
3 that provide ocean data and information to users to form
4 regional associations. The regional associations shall be re-
5 sponsible for the development and operation of observing
6 systems in the coastal regions extending to the seaward
7 boundary of the United States Exclusive Economic Zone,
8 including the Great Lakes. Participation in a regional as-
9 sociation may consist of legal entities including, research
10 institutions, institutions of higher learning, for-profit cor-
11 porations, non-profit corporations, State, local, and re-
12 gional agencies, and consortia of 2 or more such institu-
13 tions or organizations that—

14 (1) have demonstrated an organizational struc-
15 ture capable of supporting and integrating all as-
16 pects of a coastal ocean observing system within a
17 region or subregion;

18 (2) have prepared an acceptable business plan
19 including research components and gained docu-
20 mented acceptance of its intended regional or sub-re-
21 gional jurisdiction by users and other parties of in-
22 terest within the region or sub-region with the objec-
23 tives of—

24 (A) delivering an integrated and sustained
25 system that meets national goals;

1 (B) incorporating into the system existing
2 and appropriate regional observations collected
3 by Federal, State, regional, or local agencies;

4 (C) responding to the needs of the users,
5 including the public, within the region;

6 (D) maintaining sustained, 24-hour-a-day
7 operations and disseminating observations in a
8 manner that is routine, predictable and, if nec-
9 essary, in real-time or near real-time;

10 (E) providing services that include the col-
11 lection and dissemination of data and data
12 management for timely access to data and in-
13 formation;

14 (F) creating appropriate products that are
15 delivered in a timely fashion to the public and
16 others who use, or are affected by, the oceans;

17 (G) providing free and open access to the
18 data collected with financial assistance under
19 this Act; and

20 (H) adhering to national standards and
21 protocols to ensure that data and related prod-
22 ucts can be fully exchanged among all of the re-
23 gional coastal systems and will be accessible to
24 any user in any part of the nation.

1 (3) For purposes of determining the civil liabil-
2 ity under section 2671 of title 28, United States
3 Code, any regional observing system and any em-
4 ployee thereof that is designated part of a regional
5 association under this subsection shall be deemed to
6 be an instrumentality of the United States with re-
7 spect to any act or omission committed by any such
8 system or any employee thereof in fulfilling the pur-
9 poses of this Act.

10 (g) PILOT PROJECTS.—

11 (1) IN GENERAL.—The Administrator, in con-
12 sultation with the interagency planning office, shall
13 initiate pilot projects through the National Oceano-
14 graphic Partnership Program. A pilot project is an
15 organized, planned set of activities designed to pro-
16 vide an evaluation of technology, methods, or con-
17 cepts within a defined schedule and having the goal
18 of advancing the development of the sustained, inte-
19 grated ocean observing system. The pilot projects
20 will—

21 (A) develop protocols for coordinated im-
22 plementation of the full system;

23 (B) design and implement regional coastal
24 ocean observing systems;

1 (C) establish mechanisms for the exchange
 2 of data between and among regions and Federal
 3 agencies;

4 (D) specify products and services and re-
 5 lated requirements for observations, data man-
 6 agement, and analysis in collaboration with user
 7 groups; and

8 (E) develop and test new technologies and
 9 techniques to improve all three subsystems to
 10 more effectively meet the needs of users of the
 11 system.

12 (2) INFRASTRUCTURE CAPITAL PROJECTS.—

13 The pilot projects shall include one or more projects
 14 to capitalize the infrastructure for the collection,
 15 management, analysis, and distribution of data and
 16 one or more projects where the basic infrastructure
 17 and institutional mechanisms already exist for ongo-
 18 ing coastal observations, to fund the operations nec-
 19 essary for the collection of the common set of obser-
 20 vations approved by the interagency planning office.

21 **SEC. 4. INTERAGENCY FINANCING.**

22 The departments and agencies represented on the
 23 Council are authorized to participate in interagency fi-
 24 nancing and share, transfer, receive and spend funds ap-
 25 propriated to any member of the Council for the purposes

1 of carrying out any administrative or programmatic
 2 project or activity under this Act or under the National
 3 Oceanographic Partnership Program (10 U.S.C. 7901),
 4 including support for a common infrastructure and system
 5 integration for an ocean and coastal observing system.
 6 Funds may be transferred among such departments and
 7 agencies through an appropriate instrument that specifies
 8 the goods, services, or space being acquired from another
 9 Council member and the costs of the same.

10 **SEC. 5. AUTHORIZATION OF APPROPRIATIONS.**

11 (a) OBSERVING SYSTEM AUTHORIZATION.—For de-
 12 velopment and implementation of an integrated ocean and
 13 coastal observing system under section 3, including finan-
 14 cial assistance to regional coastal ocean observing systems
 15 and in addition to any amounts previously authorized,
 16 there are authorized to be appropriated to—

17 (1) the National Oceanic and Atmospheric Ad-
 18 ministration, \$83,000,000 in fiscal year 2004,
 19 \$87,250,000 in fiscal year 2005, \$91,500,000 in fis-
 20 cal year 2006, \$96,000,000 in fiscal year 2007, and
 21 \$100,000,000 in fiscal year 2008;

22 (2) the National Science Foundation,
 23 \$25,000,000 in fiscal year 2004, \$26,250,000 in fis-
 24 cal year 2005, \$27,500,000 in fiscal year 2006,

1 \$29,000,000 in fiscal year 2007, and \$30,500,000 in
2 fiscal year 2008;

3 (3) the National Aeronautics and Space Admin-
4 istration, \$30,000,000 in fiscal year 2004,
5 \$31,500,000 in fiscal year 2005, \$33,000,000 in fis-
6 cal year 2006, and \$34,750,000 in each of fiscal
7 years 2007 and 2008;

8 (4) the United States Coast Guard, \$8,000,000
9 in fiscal year 2004, \$8,400,000 in fiscal year 2005,
10 \$9,700,000 in fiscal year 2006, \$9,500,000 in fiscal
11 year 2007, and \$9,750,000 in fiscal year 2008;

12 (5) the Office of Naval Research, \$25,000,000
13 in fiscal year 2004, \$26,250,000 in fiscal year 2005,
14 \$27,500,000 in fiscal year 2006, \$29,000,000 in fis-
15 cal year 2007, and \$30,500,000 in fiscal year 2008;

16 (6) the Office of the Oceanographer of the
17 Navy, \$30,000,000 in fiscal year 2004, \$31,500,000
18 in fiscal year 2005, \$33,000,000 in fiscal year 2006,
19 \$34,750,000 in fiscal year 2007, and \$36,500,000 in
20 fiscal year 2008; and

21 (7) other Federal agencies with operational
22 coastal or ocean monitoring systems or which pro-
23 vide funds to States for such systems, \$15,000,000
24 in each of fiscal years 2004 through 2008.

1 (b) REGIONAL COASTAL OBSERVING SYSTEMS.—The
2 Administrator of the National Oceanic and Atmospheric
3 Administration shall make at least 51 percent of the funds
4 appropriated pursuant to subsection (a)(1) available as
5 grants for the development and implementation of the re-
6 gional coastal observing systems based on the plans adopt-
7 ed by the Council and may be used to leverage non-Fed-
8 eral funds.

9 (c) AVAILABILITY.—Sums authorized to be appro-
10 priated by this section shall remain available until ex-
11 pended.

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